

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE Ruggedized Instrumentation Package for Marine Mammal Evoked Potential Hearing Measurements (DURIP)				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Hawaii Institute of Marine Biology, Marine Mammal Research Program, P.O. Box 1106, Kailua, HI, 96734				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 2	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Ruggedized Instrumentation Package for Marine Mammal Evoked Potential Hearing Measurements (DURIP)

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Award Number: N00014-07-1-0705
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LONG-TERM GOALS

To examine the hearing of as many marine mammals and species as possible in order to develop an understanding of the normal hearing capabilities of marine mammals. To advance the technology for testing hearing in the laboratory and the field.

OBJECTIVES

To build a rugged field-ready portable battery-operated system to use to measure the hearing capabilities of marine mammals in the lab, on ships, on the beach or wherever we have the opportunity.

APPROACH

Assemble equipment into a field-ready system, test the system in the laboratory, improve it with use, deploy it to stranded animal and field situations as they become available and test the hearing of marine mammals.

WORK COMPLETED

New suction cups and other electrodes built and field tested. Equipment successfully used on two experiments with animals stranded on the beach.

RESULTS

Construction of Ruggedized equipment continues. Equipment used on the beach to obtain audiograms. Ready and available for RIMPAC exercises.

IMPACT/APPLICATIONS

Of the 85 species of whales and dolphins, we have basic hearing measurements on only 17 species. Many of our audiograms come from a single animal. This equipment will greatly assist in gathering information on what marine mammals hear. If navy operations are stopped because of the effects of noise on whales, it is imperative that we have baseline information on marine mammal hearing.

RELATED PROJECTS

Basic Hearing and Echolocation Mechanisms of Marine Mammals: Measured Auditory Evoked Potential and Behavioral Experiments: Award Number: N00014-08-1-1160

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